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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,447	09/14/2005	Chiaki Sasaoka	029437-0111	5540

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FOLEY AND LARDNER LLP
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WASHINGTON, DC 20007

EXAMINER

ZHANG, YUANDA

ART UNIT	PAPER NUMBER
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2828

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,447	Applicant(s) SASAKA, CHIAKI	
	Examiner YUANDA ZHANG	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In the remark, the applicant has stated that the support can be found on page 20, lines 10-11 of the specification, paragraph [0066], where it describes that "The distance between the pair of the device separation slots of the type A and the type B were 300 micron and 50 micron, respectively". The support only suggests the resonator width of the lowermost layer to be 50 or 300 micron; however, the claimed limitation recites a range of 50 micron or more which is not disclosed in the specification. Therefore, the limitation is not considered by the Examiner.
4. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention. In re claim 13, the specification does not support the claimed limitation of “the active layer has a width of about 10 micron”. The Applicant has cited paragraph [0066] where it recites “Their Mesa portions both had a width of 10 micron”. The Examiner notes that the mesa portions have a plurality of widths according to the mesa portions, such as width of the top of the mesa, width of the bottom of the mesa, and width of the middle of the mesa. It is not clear which width “their mesa portions” is referring to based on the support from the specification. Therefore, the limitation is not enabled by the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Nidou et al (JP 2001-320120 A).

7. In re claim 1, with reference to figure 6, Nidou et al disclose a semiconductor laser comprising a GaN-based semiconductor substrate (n mold GaN contact layer 62) and laminated layers (layers 64-71) formed on the GaN-based semiconductor substrate which include a GaN-based semiconductor clad layer (AlGaIn cladding layer 65) containing Al and an active layer (barrier layer 67) formed thereabove, wherein the

Art Unit: 2828

outermost side surfaces of the laminated layers along the direction of the resonator of the semiconductor laser are inclined with respect to the GaN-based semiconductor substrate in such a direction that a resonator width is decreased from the GaN-based semiconductor substrate side to the upper portion of the laminated layers (figure 6 and Paragraph [0052]).

8. In re claim 2, Nidou et al disclose wherein masks (63) are formed on the GaN-based semiconductor substrate (62) and the laminated layers (layers 64-71) are formed above the masks so that the side surfaces of the laminated layers along the direction of the resonator are from the grown surfaces of the semiconductor layers which have been selectively grown from the masks (Paragraph [0052]).

9. In re claim 3, Nidou et al disclose wherein the end surfaces of the resonator of the semiconductor laser are cleavage planes of the GaN-based semiconductor substrate and the laminated layers (Paragraph [0064]).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al (JP 2003-258382).

Art Unit: 2828

12. In re claim 13, with reference to drawing 13, Kawakami et al disclose a semiconductor laser comprising a GaN-based semiconductor substrate (201) and laminated layers (laminated layers that define mesa 115) formed on the GaN-based semiconductor substrate which include a GaN-based semiconductor clad layer containing Al (clad layer 104) and an active layer (106) formed thereabove, wherein the outermost side surfaces of the laminated layers along the direction of the resonator of the semiconductor laser are inclined (defined by the mesa side 117) with respect to the GaN-based semiconductor substrate in such a direction that a resonator width is decreased from the GaN-based semiconductor substrate side to the upper portion of the laminated layers (see drawing 12). Kawakami et al do not disclose the active layer has a width of about 10 micron. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the active layer of Kawakami with a width of 10 micron, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) MEPE 2144.05 (II-B)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUANDA ZHANG whose telephone number is (571)270-1439. The examiner can normally be reached on Monday-Thursday, 7:30am-6:00p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YZ/
05/29/08

/Minsun Harvey/
Supervisory Patent Examiner, Art Unit 2828